U. S. Department of Agriculture
Soil Conservation Service
Engineering Division

Technical Release No. 40
Design Unit
January 23, 1972

INDEX OF SCS NATIONAL ENGINEERING TECHNICAL MATERIALS

TECHNICAL RELEASE
NUMBER 40

INDEX OF SCS NATIONAL ENGINEERING TECHNICAL MATERIALS

The following SCS National Engineering Technical Materials are included in the Index:

1. National Engineering Handbook Sections
2. Engineering Manual
3. Technical Releases
4. Engineering Standard Drawings
5. National Standard Detail Drawings
6. National Engineering Notices
7. Notes.

The Index contains three categories of technical materials, namely:

1. Publications for sale by the Superintendent of Documents
2. SCS Publications
3. SCS Reproductions

The notation in the upper left hand corner of each page identifies the category of technical materials listed on that page. The supply offices for the technical materials listed on a page are given in the upper right hand corner.

State field personnel should request technical materials from their state office.

State offices replenish their supplies of publications from the second supply office and obtain reproductions from the first supply office listed on each page.

Engineering and Watershed Planning Units replenish their supplies of publications from the last supply office listed on each page and obtain reproductions from the file of either the Engineering and Watershed Planning Unit or the Design Unit, as appropriate.

The addresses of the Superintendent of Documents, Information Division, and Design Unit are:

Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20401

Information Division
Soil Conservation Service
U. S. Department of Agriculture
Washington, D. C. 20250

Design Unit, Engineering Division
Soil Conservation Service
Room 264
Federal Center Building No. 1
Hyattsville, Maryland 20782

Requests to the Information Division for publications should be made by using Form SCS-37 in accordance with instructions in the Administrative Services Handbook. Requests to other supply offices for technical materials may be made by letter.

ES Drawings are available as separates. Furthermore, each sheet of ES-125 through ES-131 is available as a separate.

National Standard Detail Drawings should be ordered only as the need arises for each job.

Related technical materials are usually assigned consecutive numbers. Technical material that has been canceled or superceded is unavailable and is not listed in the Index.

The following abbreviations are used in the Index:

DN - Design Note
EFM - Engineering Field Manual
ES - Engineering Standard Drawing
NEH - National Engineering Handbook
SMN - Soil Mechanics Note
SN - Specification Note
TR - Technical Release

INDEX OF
NATIONAL ENGINEERING HANDBOOK SECTIONS

SCS Publications

Supply Offices
1. State
2. EWP Unit
3. Design Unit

Section	Title and Subject
2	ENGINEERING PRACTICE STANDARDS; Part I, Engineering Conservation Practices
3	SEDIMENTATION, Chapter 1, Introduction; Chapter 2, Sediment Properties; Chapter 7, Field Investigations and Surveys SEDIMENTATION, Chapter 4, Transportation of Sediment by Water; Chapter 5, Deposition of Sediment; Chapter 6, Sediment Sources, Yields and Delivery Ratios; Chapter 10, Units and Equivalents
5	HYDRAULICS, Including HYDRAULICS, Supplements A and B HYDRAULICS, Supplement A, Water Surface Profiles HYDRAULICS, Supplement B, Estimation of "n" values for natural streams, floodways, and drainage channels
6	STRUCTURAL DESIGN
8*	ENGINEERING GEOLOGY, Chapter 1, Description of Materials; Chapter 2, Exploration Methods and Equipment
11	DROP SPILLWAYS
14	CHUTE SPILLWAYS
16	DRAINAGE OF AGRICULTURAL LAND
18	GROUND WATER, Chapters 1 through 6
19	CONSTRUCTION INSPECTION
20	SPECIFICATIONS FOR CONSTRUCTION CONTRACTS

*See page 3 of this Index for titles of other available chapters of NEH-8.

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NATIONAL ENGINEERING HANDBOOK SECTIONS

For sale by
Superintendent of Documents

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1. State
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3. Design Unit

Section	Title and Subject	Price
4	HYDROLOGY	$5.75

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1. State
2. Information Division

Section	Title and Subject	Price
8*	ENGINEERING GEOLOGY, Chapter 3, Samples; Chapter 4, Logging Test Holes; Chapter 5, Requirements for Geologic Investigations and Sampling; Chapter 6, Preliminary Site Investigation; Chapter 7, Detailed Site Investigation	$0.40
15	IRRIGATION, Chapter 1, Soil-Plant-Water Relationships	0.45
	IRRIGATION, Chapter 3, Planning Farm Irrigation Systems	0.60
	IRRIGATION, Chapter 6, Contour Levee Irrigation	0.40
	IRRIGATION, Chapter 8, Irrigation Pumping Plants	0.45
	IRRIGATION, Chapter 9, Measurement of Irrigation Water	0.45
	IRRIGATION, Chapter 11, Sprinkler Irrigation	0.55
	IRRIGATION, Chapter 12, Land Leveling	0.50
22	SNOW SURVEY AND WATER SUPPLY FORECASTING	**

*See page 1 of this Index for titles of other available chapters of NEH-8.

** Price of NEH-22 not available at time of printing of TR-40.

INDEX OF
ENGINEERING MANUAL

For sale by
Superintendent of Documents

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1. State
2. EWP Unit
3. Design Unit

Title and Subject	Price
ENGINEERING FIELD MANUAL, for Conservation Practices	$7.75

INDEX OF
TECHNICAL RELEASES

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No.	Title
1	Routing Through Tide Gates
2	Earth Spillways, Tentative
3	Hood Inlets for Culvert Spillways
4	Height of Water Column Supported by Atmospheric Pressure
5	Structural Design of Underground Conduits
~~6~~	~~Standards for Buried Steel Pipelines~~ Cancelled
12	Procedure - Sediment Storage Requirements for Reservoirs
15	Computation of Water Surface Profiles and Related Parameters by ES-Charts
16	Rainfall-Runoff Tables for Selected Runoff Curve Numbers
17	Geologic Investigations for Watershed Planning
18	Computation of Joint Extensibility Requirements ~~rrels~~
19	Determination of Storage Requirements to Meet Supply-Demand Relationships
20	Computer Program for Project Formulation - Hydrology
21	Irrigation Water Requirements (Revised September, 1970)
23	Engineering Services Contracts
24	Investigating Structure Failures
25	Planning and Design of Open Channels, Chapters 1 through 6 Planning and Design of Open Channels, Chapter 7, Environmental Considerations in Channel Design Installation and Maintenance
26* 27	The Use of Soils Containing More Than 5 Percent Rock Larger Than the No. 4 Sieve Laboratory and Field Test Procedures for Control of Density and Moisture of Compacted Earth Embankments
28	Clay Minerals
29	Hydraulics of Two-Way Covered Risers
30	Structural Design of Standard Covered Risers
31	Structural Analysis and Design at Low Stage Inlets
32	Procedure for Determining Rates of Land Damage, Land Depreciation and Volume of Sediment Produced by Gully Erosion
33	Simplified Method for Determining Floodwater Retarding Storage

* Technical Release No. 26 and Technical Release No. 27 are available as one stapled document.

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35	UD Method of Reservoir Flood Routing
36	Ground-Water Recharge
37	Structural Analysis and Design at Base of Riser with Conduit Openings in Both Endwalls
38	New Tables of Percentage Points of the Pearson Type III Distribution
39	Hydraulics of Broad-Crested Spillways
40	Index of SCS National Engineering Technical Materials
41	Graphical Solutions of Geologic Problems
42	Single Cell Rectangular Conduits - Criteria and Procedures for Structural Design
43	Single Cell Rectangular Conduits - Catalog of Standard Designs
44	Seismic and Resistivity Methods of Geophysical Exploration
45	Twin Cell Rectangular Conduits - Criteria and Procedures for Structural Design
46	Gated Outlet Appurtenances Earth Dams
47	Classification System for Varied Flow in Prismatic Channels
48	Computer Program for Project Formulation - Structure Site Analysis
49	Criteria for the Hydraulic Design of Impact Basins Associated with Full Flow in Pipe Conduits

50 Design of Rectangular Structural Channels

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2	Simple Beam Moments for Concentrated Load	1	L	NEH-6
3	Simple Beam Moments for Trapezoidal Load	1	L	NEH-6
4	Shear and Moment for Trapezoidal Load on Cantilever	3	L	NEH-6
8	Circular Curve, Dimensioning and Layout for Reinforced Concrete Sectional Pipe	3	L	
11	Depth of Standing Water Behind Nappe of Drop Spillway	2	L	
15	Loads on Ditch Conduits	1	L	NEH-6
16	Drawing Sizes and Title Blocks for Engineering Division - Design Unit Drawings	2	L	NEH-6
17	Fixed Ended Beam Moments, for Concentrated Load, Uniformly Distributed Load, and Hydrostatic Load on Prismatic Beams	1	L	NEH-6
18	Reinforced Concrete-Typical Bar Types	1	L	NEH-6
20	Reinforced Concrete-Standard Hook Detail, ACI Code	1	L	NEH-6
22	Loads on Rigid Projecting Conduits	2	L	NEH-6
23	Simple Beam Moments for Triangular Load	1	L	NEH-6
24	Critical Depth and Discharges in Trapezoidal and Rectangular Sections	3	N	NEH-5
25	Distribution of Surface Loads Through Earth Fill	1	L	NEH-6
26	Structural Timber, Unit Working Stresses of Various Species for Different Exposure Conditions	1	L	NEH-6
28	Moments in Single Barrel	1	L	NEH-6
29	Moments in Double Barrel	1	L	NEH-6
31	Pressure Diagrams and Methods of Computing Hydrostatic Loads	2	L	NEH-5
32	Fixed Ended Beam Moments for Partial Uniformly Distributed Load - Prismatic Beams	1	L	NEH-6
33	Elements of Channel Sections	1	L	NEH-5
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37	Values of y^n and $x^{1/n}$	3	L	NEH-5
38	Surface Profiles in Uniform Channels	5	L	NEH-5
39	Graph for Determining Side Slope z of a Triangular Channel with Q, v, n, s Given	1	L	NEH-5
40	Solution of Hazen-Williams Formula for Round Pipes	1	N	NEH-5
41	Graph for Determining Dimensions of a Parabolic Channel with Q, v, n, s Given	1	L	NEH-5
42	Head Loss Coefficients for Circular and Square Conduits Flowing Full	1	L	NEH-5
43	Three-Halves Powers of Total Heads on Weirs	1	L	NEH-5
46	Reinforced Concrete Design. Areas and Perimeters of Bars at Various Spacings for 12 inch Width	1	L	NEH-6
47	Reinforced Concrete Design. Bar Spacings for Temperature and Shrinkage Steel	1	L	NEH-6
48	Required Width of Headwall Extension Footings for Type B	1	L	NEH-11
49	Required Width of Wingwall Footings	1	L	
53	Chart for Determining Water Surface Profiles for Positive Value of s_o; Step Method	1	N	NEH-5
54	Discharge of Circular Pipe Flowing Full	4	L	NEH-5
55	Uniform Depths and Discharges in Trapezoidal and Rectangular Channels	4	N	NEH-5
56	Drop Spillway Apron Design: Moment and Shears	2	L	NEH-11
63	Nomenclature and Symbols of Drop Spillway	1	N	NEH-11
64	Required Base Width for Gravity Walls with Various Loads and Loadings	1	L	NEH-11
65	Solution of Equation $Q = \frac{3.1\ L\ h^{3/2}}{(1.10 + 0.01\ F)}$	2	L	NEH-11
66	Approximate Volumes of Reinforced Concrete in Cubic Yards - Type B	2	L	NEH-11
67	Layout and Hydraulic Design Criteria - Type B	1	N	NEH-11

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68	Dimensionless Coordinates of Water Surface for Aerated Nappe over Weir with Level, Flush Approach Channel	1	L	NEH-11
70	Typical Layouts	1	L	NEH-11
71	Details for Masonry Drop Spillway F = 6'- 0", h = 3'- 0", L = 16'- 0"	1	N	NEH-11
73	Hydraulic Design Criteria and Charts for SAF Stilling Basin	3	L	NEH-14
74	Minimum Concrete Volume for Various Discharges for Net Drops, F, for 5 to 10 feet and Weir Lengths, L, up to 30 feet - Type B	1	L	NEH-11
75	Solution of General Equation for Critical Flow	3	N	NEH-5
76	Solution of Cross Section Factor $F = \frac{n\, Q_{n,d}}{s_o^{1/2}} = 1.486\, ar^{2/3}$	3	N	NEH-5
77	Solution of Manning's Formula $\frac{Q_{n,d}}{s_o^{1/2}} = \frac{1.486}{n}\, ar^{2/3} = \frac{F}{n}$	4	N	NEH-5
78	Water Surface Profiles for Rectangular Sections; accelerated supercritical flow	35	L	NEH-14
79	Riprap of Approach Channel-Layout and Requirements	1	L	NEH-11
80	Details of Reinforced Concrete Drop Spillway	3	N	NEH-11
81	Aeration of Weirs	1	L	NEH-11
82	Straight Inlets; gives nomenclature, general layout, formulas, dimensions, capacity and volume of concrete	5	L	NEH-14
83	Non-Uniform Flow in Prismatic, Non-Prismatic and Natural Channels; examples 1 through 6	10	N	NEH-5
84	Channels; gives nomenclature, general layout, formulas, dimensions, capacity and volume of concrete for chute spillway channels having 3 to 1 bottom slopes	6	L	NEH-14
85	Side Channel Inlets; gives nomenclature, general layout, formulas and charts for determining capacity and dimensions	3	L	NEH-14
86	SAF Outlets; gives nomenclature, general layout, formulas, dimensions, capacity, volume of concrete and tailwater requirements	14	L	NEH-14

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88	Vertical Curve Sections; gives nomenclature, general layout, formulas, dimensions, capacity, volume of concrete and coordinates for upper and lower vertical curves	23	L	NEH-14
90	Flat-Rectangular Weir Box Inlets; gives nomenclature, general layout, formulas, dimensions and discharge-head relationship for free-flow conditions at the crest (1) with no dike or narrow approach channel effects (2) with narrow approach channel effects (3) with dike effects	24	L	NEH-14
91	Rounded-Rectangular Weir Box Inlets; gives nomenclature, general layout, formulas, dimensions, and discharge-head relationships for free-flow conditions at the crest (1) with no dike or narrow approach channel effects (2) with narrow channel effects (3) with dike effects	24	L	NEH-14
92	Flat-Trapezoidal Weir Box Inlets; gives nomenclature, general layout, formulas, dimensions and discharge-head relationships for free-flow conditions at the crest (1) with no narrow approach channel effects (2) with narrow approach channel effects	16	L	NEH-14
93	Rounded-Trapezoidal Weir Box Inlets; gives layout, formulas, dimensions, and head-discharge relationships for free-flow conditions at the crest (1) with no narrow approach channel effects (2) with narrow approach channel effects	16	L	NEH-14
94	Series "B" Reinforced Concrete Drop Spillways Schedule Showing Drawing Number, Cubic Yards of Concrete and Pounds of Reinforcing Steel	2	L	
96	Preliminary Sketches for Combined Anti-Vortex Device and Trash Guard	5	N	
97	Flow in Circular Conduits; gives flow areas, normal discharges, and critical discharges for various depths of flow	7	N	NEH-5
98	Determination of Hydraulic Parameters for Approximating Flow in Earth Spillways	4	L	TR-2
99	Typical Layout and Grading Plans	5	L	TR-2
100	Typical Condensed Profiles Along ℄ of Earth Spillway	1	L	TR-2
101	Ten-thirds Powers of Numbers	2	L	TR-2

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104	Rectangular Slabs fixed on three edges and free on the fourth edge with partial hydrostatic, hydrostatic, partial uniform, and uniform loading; gives coefficients for horizontal and vertical moments and coefficients for shear	85	L	NEH-6
108	Q vs $\frac{Q}{D^{5/2}}$; for various pipe sizes	3	L	TR-3
109	Charts for Determining Scour Hole Radius, Scour Hole Depth and Grain Size for Imminent Movement	3	L	TR-3
110	Elevation vs Probable Minimum Atmospheric Pressures and Temperature vs Vapor Pressure of Water	1	L	TR-3
111	Hydraulic Design, Straight Drop Spillway - Type C	6	L	NEH-11
112	Maximum Negative Head Permissible to Avoid Cavitation in Pressure Conduits for Various Elevations and Water Temperatures	1	L	TR-4
113	Rigid Pipes; gives procedures for selecting pipe, cradle or bedding and for determining allowable fill heights	3	L	TR-5
114	Data Required for the Design of Underground Conduits and Chart for determining K, μ, and Kμ	3	L	TR-5
115	Procedure and Charts; for determining the settlement ratio δ	4	N	TR-5
116	Classification Used for Load Determination	2	N	TR-5
117	Categorizing Underground Conduits	2	N	TR-5
118	Charts for Determining Loads on Underground Conduits	3	N	TR-5
119	Rigid Pipes; gives minimum strength and dimensions of various pipes manufactured to conform to ASTM specifications	3	N	TR-5
120	Rigid Pipes; gives dimensions and bedding factors for cradles and beddings and a chart for determining X_a	2	N	TR-5
121	Rigid Pipes; gives charts for determining the parameter T	2	N	TR-5
122	Charts for Determining the Parameter U	1	N	TR-5
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127*	Water Surface Profile Charts for Prismatic Channels z = 1 b = 1-75 ft (sheets 1-174)	174	N	TR-15
128*	Water Surface Profile Charts for Prismatic Channels z = 1.5 b = 1-140 ft (sheets 1-228)	228	N	TR-15
129*	Water Surface Profile Charts for Prismatic Channels z = 2 b = 1-300 (sheets 1-324)	324	N	TR-15
130*	Water Surface Profile Charts for Prismatic Channels z = 2.5 b = 1-75 (sheets 1-174)	174	N	TR-15
131*	Water Surface Profile Charts for Prismatic Channels z = 3 b = 1-300 (sheets 1-324)	324	N	TR-15
137	Relation of n, $(\ell_2-\ell_1)$ and $n^2(\ell_2-\ell_1)$	1	N	TR-15
138	Relation of n, s_o, and $\frac{n}{s_o^{1/2}}$	1	N	TR-15
140	Channel Stability; Nomenclature, Procedures for Determining Stability, Grain Size vs n_t Values, Actual Maximum Tractive Forces on Beds and Sides of Straight and Curved Trapezoidal Channels	8	L	TR-25
141	Channel Stability; Determination of Limiting Tractive Forces for Beds of Straight Trapezoidal Channels and for Sides of Trapezoidal Channels Non-cohesive Material, Angle of Repose for Non-cohesive Materials	4	L	TR-25
142	Energy Relations of Varied Flow, Summary of Graphic Procedures on Water Surface Profile Charts ES-134 for Prismatic Channels, Procedure for Computing the Unknown Depth of the End of a Computational Reach	6	N	TR-15
146	Values of ratio of maximum unit horizontal strain to maximum unit vertical strain = R	1	L	TR-18
150	Drop Inlet Spillways Standard for Covered Top Riser	1	N	
151	Drop Inlet Spillways Standard for Rectangular Open Top Riser	1	N	
152	Drop Inlet Spillways Standard for Square Open Top Riser	1	N	

*Any particular sheet of these drawings may be requested as a separate. See Technical Release No. 15 for correspondence between sheet numbers and bottom widths.

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154	Drop Inlet Spillways Standard for Pipe Conduits	1	N	
155	Drop Inlet Spillways Standard for Pipe Conduit Outlets	1	N	
156	Drop Inlet Spillways Recommendation for Low Stage Inlets	1	N	
157	Steel Angles with Equal Legs	2	L	
158	Subcritical Water Surface Profiles	10	N	TR-39
159	Velocity Head Chart	2	N	TR-39
160	Reinforced Concrete Design, Working Stress Design, Allowable Stresses, Allowable Bond Stresses, Anchorage Lengths, and Splice Lengths	3	L	NEH-6
161	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 2500 psi	3	N	NEH-6
162	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 3000 psi	3	N	NEH-6
163	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 3500 psi	3	N	NEH-6
164	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 4000 psi	3	N	NEH-6
165	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 4500 psi	3	N	NEH-6
166	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 5000 psi	3	N	NEH-6
167	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 5500 psi	3	N	NEH-6
168	Reinforced Concrete Design, Working Stress Design-Moment Chart, Shear Chart, Bond Chart f'_c = 6000 psi	3	N	NEH-6
169	Standard Covered Risers, Selection of Standard Detail Drawings, Material Schedule	7	L	
170	Permissible H_{ec} for Various s_o and v_p	4	L	TR-39
171	H_{ec} vs H_p for Various Lengths, L	10	L	TR-39
172	Critical Slope Corresponding to Q/4	1	L	TR-39

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174	H_{ec} vs $Q_{c,d}$ for Various Bottom Widths, b; (z = 2)	9	N	TR-39
175	H_{ec} vs $Q_{c,d}$ for Various Bottom Widths, b; (z = 3)	9	N	TR-39
176	Effect of n, b, and z on Friction Head Loss	13	L	TR-39
177	Effect of b and z on Permissible H_{ec}	8	L	TR-39
178	Effect of b and z on Critical Slope ($s_{c,Q/4}$)	3	L	TR-39
179	Examples Showing the Interrelation of Drawings ES-170 through ES-178	4	L	TR-39
180	Standard Open Risers, Selection of Standard Detail Drawings	2	L	
181	Cradle Modification for a Rock Foundation Hiatus-Determination of $2K\mu\eta'$	3	N	DN-4
182	Stilling Basin for Cantilever Outlet	7	L	DN-6
186	Standard Impact Basins, Schedule Showing Numbers, Volumes of Concrete, and Weights of Steel	1	L	TR-49
187	Impact Basins: General Layout and Hydraulic Design	1	N	TR-49
188	Impact Basins: Recommended Basin Widths for Various Pipe Diameters and Design Discharges	1	N	TR-49
189	Impact Basins: Recommended Riprap Sizes	1	N	TR-49
191	Relation Between the Two Classification Systems of Varied Flow	1	N	TR-47
192	Termination of WSP by a Hydraulic Jump	1	N	TR-47
193	WSP in Prismatic Channels of Sufficient Length to Produce Essentially Uniform Flow	1	N	TR-47
195	Standard Conduit Details, Schedule Showing Drawing Numbers	1	L	

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601	Reservoir Flood Routing Charts; Hydrograph Family 1	12	L	TR-35
602	Reservoir Flood Routing Charts; Hydrograph Family 2	12	L	TR-35
603	Reservoir Flood Routing Charts; Hydrograph Family 3	12	L	TR-35
604	Reservoir Flood Routing Charts; Hydrograph Family 4	11	L	TR-35
605	Reservoir Flood Routing Charts; Hydrograph Family 5	11	L	TR-35
606	Emergency Spillway Hydraulics, Discharge Charts z = 0	3	N	TR-35
607	Emergency Spillway Hydraulics, Discharge Charts z = 1/2	3	N	TR-35
608	Emergency Spillway Hydraulics, Discharge Charts z = 1	3	N	TR-35
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709	Procedure for Design of Drainage Ditches at Culverts	1	L	NEH-16
715	Graphical Solution - Drainage Coefficient for Irrigated Areas	1	L	NEH-16
716	Graphical Solution - Drain Design Discharge	1	L	NEH-16
717	Solution of Ellipse Equation	2	L	NEH-16
718	Graphical Solution of Modified Ellipse Equation	3	L	NEH-16
719	Solution of Modified Ellipse Equation - Depth to Barrier Infinite	1	L	NEH-16
720	Maximum Allowable Trench Depths, Rigid Conduits	1	L	NEH-16
721	Drain Capacity Charts, n = 0.011, n = 0.013 and n = 0.015	3	L	NEH-16
722	A classification to Determine the Need for Drain Filters or Envelopes, and Minimum Velocities in Drains	1	L	NEH-16
723	Curves for Tide Gate Discharge	2	N	NEH-16
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725	Velocity Head, Discharge, and Friction-Head Loss in Riveted Steel Pipes	1	L	NEH-16
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1001	Graph for Solution of Runoff Equation $Q = \frac{(P - 0.2S)^2}{P + 0.8S}$	2	N	NEH-4
1003	Criteria for Design Storms Used in Developing Emergency Spillway Design and Freeboard Hydrographs (Revised September 10, 1963)	1	L	NEH-4
1014	Graphs, Tables and Examples for Estimation of Annual Water Yield from Ungaged Watersheds of 10 to 2000 Acres in Size	2	N	EFM
	Minimum Six-Hour Precipitation Maps for Developing Emergency Spillway and Freeboard Hydrographs:			
1020	Contiguous United States	5	L	NEH-4
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1022	Alaska	5	L	NEH-4
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1027	Peak Rates of Discharge for Small Watersheds Type II Storm Distribution	21	L	EFM
1028	Solution of Runoff Equation $Q = \frac{(P - 0.2S)^2}{P + 0.8S}$ with P, Q and S in millimeters	2	L	

NATIONAL STANDARD DETAIL DRAWINGS

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ES-Number	Title	Number of Sheets	Sheet Size	Reference
2FFh'-LB*	National Standard Detail Drawings See ES-94 for available drawings	3	E	NEH-11

Key for the TYPE B DROP SPILLWAYS,
ES-2FFh'-LB. National Standard Detail Drawings
where

FF = a code of two digits to indicate the net drop (F) from crest of weir to top of transverse sill in feet.

FF = 05 means F = 5 feet FF = 08 means F = 8 feet
FF = 06 means F = 6 feet FF = 09 means F = 9 feet
FF = 07 means F = 7 feet FF = 10 means F = 10 feet

h' = a code to indicate total depth of weir, h, in feet and inches

h' = 1 means h = 2'-6" h' = 5 means h = 4'-6"
h' = 2 means h = 3'-0" h' = 6 means h = 5'-0"
h' = 3 means h = 3'-6" h' = 7 means h = 5'-6"
h' = 4 means h = 4'-0" h' = 8 means h = 6'-0"

L = length of weir in feet
B = Type B reinforced concrete drop spillways

Example: ES-2051-6B is the ES-drawing number of the National Standard Detail Drawings for the TYPE B DROP SPILLWAY having a weir length of 6 feet, a weir depth of 2'-6" and a vertical drop from the crest of the weir to the top of the transverse sill of 5 feet.

*Available as ozalid prints and transparencies.

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ES-Number	Title	Number of Sheets	Sheet Size	Reference
30DD-[NN]$_{ih}$[NN]$_{is}$[$\frac{E}{R}$]*	National Standard Detail Drawings	4	E	

See ES-169 for available drawings

Key for the STANDARD COVERED RISERS

ES-30DD-[NN]$_{ih}$[NN]$_{is}$[$\frac{E}{R}$], National Standard Detail Drawings

where

DD ≡ D = pipe conduit diameter, inches.

[NN]$_{ih}$ ≡ N_{ih} = vertical distance from pipe invert at the riser to crest of the covered inlet of the riser, ft.

[NN]$_{is}$ ≡ N_{is} = vertical distance from pipe invert at the riser to soil surface, ft. The soil surface is either the sediment or the embankment (berm) surface.

[$\frac{E}{R}$] ≡ riser is designed to be located in the [$\frac{\text{embankment}}{\text{reservoir area}}$].

Example: ES-3036-4025E is the ES-drawing number of the National Standard Detail Drawings for the STANDARD COVERED RISER designed to be located in the embankment and having D = 36" , N_{ih} = 40', and N_{is} = 25'.

31DD-[NN]$_{ih}$[NN]$_{is}$[$\frac{E}{R}$]*	National Standard Detail Drawings	4	E	

See ES-180 for available drawings

Key for the STANDARD OPEN RISERS

ES-31DD-[NN]$_{ih}$[NN]$_{is}$[$\frac{E}{R}$], National Standard Detail Drawings

where

DD ≡ D = pipe conduit diameter, inches.

[NN]$_{ih}$ ≡ N_{ih} = vertical distance from pipe invert at the riser to crest of the open inlet of the riser, ft.

[NN]$_{is}$ ≡ N_{is} = vertical distance from pipe invert at the riser to soil surface, ft. The soil surface is either the sediment or the embankment (berm) surface.

[$\frac{E}{R}$] ≡ riser is designed to be located in the [$\frac{\text{embankment}}{\text{reservoir area}}$].

Example: ES-3136-3030E is the ES-drawing number of the National Standard Detail Drawings for the STANDARD OPEN RISER designed to be located in the embankment and having D = 36", N_{ih} = 30', and N_{is} = 30'.

*Available as ozalid prints and transparencies

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ES-Number	Title	Number of Sheets	Sheet Size	Reference
4WWW*	National Standard Detail Drawings See ES-186 for available drawings Key for the STANDARD IMPACT BASINS ES-4WWW, National Standard Detail Drawings where WWW ≡ W = width of basin, WW.W ft Example: ES-4120 is the ES-drawing number of the National Standard Detail Drawings for the STANDARD IMPACT BASIN having a basin width of 12.0 ft.	5	E	
$5[^{O}_{1}]DD - [^{C}_{B}][^{E}_{R}]$*	National Standard Detail Drawing See ES-195 for available drawings Key for the STANDARD CONDUIT DETAILS ES-$5[^{O}_{1}]DD - [^{C}_{B}][^{E}_{R}]$, National Standard Detail Drawings where $[^{O}_{1}]$ ≡ the reinforced concrete pressure pipe conduit details are associated with [class (a) dams more than 50 ft high and all class (b) and class (c) dams alternate for class (a) dams less than 50 ft high] DD ≡ D = pipe conduit diameter, inches $[^{C}_{B}]$ ≡ pipe is supported on [cradles / beddings] $[^{E}_{R}]$ ≡ foundation is [earth (yielding) / rock (non-yielding)] Example: ES-5130-BE is the ES-drawing number of the National Standard Detail Drawing for the STANDARD CONDUIT DETAILS associated with a class (a) dam less than 50 ft high having a reinforced concrete pressure pipe principal spillway. The pipe is 30 inches in diameter and is supported on bedding founded on earth.	1	E	

*Available as ozalid prints and transparencies

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NEH Notice 4-101	October 13, 1971
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NEH Notice 6-2	November 14, 1968
NEH Notice 8-2	October 20, 1970
NEH Notice 11-1	April 26, 1968
NEH Notice 16-101	September 24, 1971
NEH Notice 19-2	October 5, 1965
NEH Notice 19-3	March 5, 1970
NEH Notice 19-4	October 12, 1970
EFM Notice-1	September 25, 1969
EFM Notice-2	August 4, 1970
EFM Notice-3	October 28, 1970
EFM Notice-4	April 30, 1971
EFM Notice-5	October 13, 1971
TR Notice 25-1	October 17, 1968
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TR Notice 28-1	July 22, 1970
TR Notice 30-1	August 15, 1968
TR Notice 44-1	August 11, 1971

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DN 2	Required Three-Edge Bearing Strength for Rigid Pipe
DN 3	Detail of Riprap above Berm on Earth Dam
DN 4	Cradle Modification Where a Rock Foundation Hiatus Exists
DN 5	Some Comments on Flexural and Anchorage Bond Stresses
DN 6	Armored Scour Hole for Cantilever Outlet
DN 7	Variation in joint extensibility requirements as sectional conduit is moved up or down from embankment-foundation interface. (See TR No. 18)
DN 8	Entrance Head Losses in Drop Inlet Spillways
DN 9	Use of AWWA C302 Pipe for Principal Spillway Conduit
DN 10	Special Designs of Single Cell Rectangular Conduits
DN 11	Welding Reinforcing Steel for Reinforced Concrete
DN 12	Control of Underground Corrosion
DN 13	Plastic Filter Cloth
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